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NON-DUP  
Market Street Development  
an analysis

city & county of san francisco  
market street design task force

Appendix on Traffic  
Planes





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EVALUATION OF DESIGN PROPOSALS FOR MARKET STREET SUBWAY

STATIONS AND DEVELOPMENT OF THE STREET SURFACE

The Board of Supervisors has requested the Market Street Executive Committee and its Task Force to analyze and evaluate the preliminary designs for the Market Street stations submitted by BARTD and the conceptual plans prepared by the City's Urban Design Consultants for the development of the street surface, as presented to the Board of Supervisors on June 28, 1965.

The design proposals were extensively reviewed with both public and private groups after which Task Force committees carried out a detailed evaluation of the plans. This evaluation was considered by the Executive Committee in many sessions.

During the process of work, which culminated in these preliminary design proposals, a considerable amount of new data was developed which identifies the many functions of Market Street. Recognizing the multiple uses and future demands of the street, the Executive Committee finds the following elements to be technically feasible:

- 1) Placement of entranceways within an area which is not more than 28'6" from the existing property line. This permits the development of adequate entranceways to the subway stations





while maintaining a high degree of flexibility for future use and development of the remaining portions of the street surface.

- 2) Large and significant plazas on publicly owned land, or land to be publicly acquired, designed and constructed in conjunction with the subway stations. Large plazas will contribute to the good design and operation of the street; for example,
  - a) Fifth-Eddy-Powell Street location;
  - b) Civic Center Station in the vicinity of Fulton Street in conjunction with the Seventh Street extension; and
  - c) Sutter-Sansome-Market intersection to blend with the existing open space complex around the Zellerbach and Standard Oil buildings.
- 3) The proposed extensions of Fifth and Seventh Streets will relieve traffic congestion and improve circulation.
- 4) Closing certain streets to vehicular traffic to facilitate plaza development:
  - a) Ecker Street from Market Street south to the loading turn-out of the new Standard Oil building;
  - b) Powell Street from Market Street to Ellis Street (with provision for service and emergency access only);
  - c) Eddy Street from Market to Anna Lane;
  - d) Fulton Street from Market to Hyde (with provision for service and emergency access only).





- 5) Continued operation of private automobiles on Market Street.

The need varies along the length of the street, and the final design should recognize this fact.

- 6) Public transit buses operating on the street surface can best operate from the curb lane with bus stops coordinated to provide direct service to subway stations.

The foregoing comments pertain to the submissions by both BARTD and the Urban Design Consultants.

Additional comments regarding BARTD's submissions are as follows:

- 1) Station mezzanines have not been designed at their east ends so as to fully accommodate patronage concentrations and to minimize conflicts between pedestrian and vehicular movements, specifically as follows:

At the Montgomery Street Station --Extension to the east side of Sansome Street

At the Powell Street Station-----Extension to the east side of Stockton Street and Fourth Street, with a connection to the Yerba Buena Center

At the Civic Center Station-----Extension to the east side of Seventh Street

- 2) Mezzanine designs do not provide for convenient and centralized access to the Municipal Railway loading platforms.





- 3) Mezzanines have not been designed to adequately facilitate future connections to private properties.
- 4) The clear span design of the station areas facilitates pedestrian movement and has a desirable visual effect. While the design has reduced areas of concealment contributing to policing problems to a considerable degree, it has not fully eliminated them.
- 5) The pattern of entranceways at the west end of the stations at Montgomery Street, Powell Street, and Civic Center generally recognize patronage concentrations and minimize vehicle-pedestrian conflicts. Since the east end of the mezzanine at these three stations has been shortened over that indicated on previous submissions, the entranceways proposed are not placed at the points where they would best accommodate heavy patronage concentrations.
- 6) Entranceways at some locations have not been designed so that the majority of passengers can enter the subway without having to pass through the restricted sidewalk area between entranceways and buildings.
- 7) Station exhaust vents, access panels, etc. on the street surface are not located away from pedestrian crosswalks or with due consideration to other surface uses.





The Consultants have recommended Scheme "B" as a concept for the design of the street surface. The Committee's additional comments regarding the submission by the Urban Design Consultants are as follows:

- 1) Since the Consultants in their plans have followed essentially BARTD's pattern of station entranceways and mezzanines, the above comments relating to these items of BARTD's submission would apply.
- 2) The development of small plazas on private property needs further evaluation in light of the over-all scale of Market Street and the economics of downtown land development.
- 3) Although 35' sidewalks will provide space for pedestrians and for amenities such as trees, benches, and kiosks, there may be some areas where vehicular needs may require a variation in the sidewalk width.
- 4) Street closings have been recommended which would seriously disrupt the present downtown circulation system. Some of the problems can undoubtedly be resolved, but not without a detailed traffic network analysis and the adoption of an over-all circulation plan for the downtown area.
- 5) Mid-block crosswalks intended to facilitate significant pedestrian movements would, in some instances, impede the efficient movement of transit and other vehicles.





- 6) The street narrowing proposals for intersecting streets would not significantly improve pedestrian movement crossing the streets and would seriously restrict the vehicular flows.
- 7) Parking bays on Scheme "B" would impede the flow of vehicular traffic, especially transit buses.

On the basis of technical data developed to date, as illustrated on the attached charts, it appears that the four traffic lanes shown on Scheme "B" would be inadequate to accommodate existing and projected flow of transit vehicles, trucks, taxis and private automobiles. Scheme "B" provides for 35' sidewalks on each side of Market Street. More than four traffic lanes would result in sidewalk widths of less than 35'. Along the length of Market Street, changing pedestrian and vehicular volumes may require variations in the widths of sidewalks.

Although 35' sidewalks would provide generous space for pedestrians and amenities, the width of sidewalks cannot be finally determined until the question of vehicular use of the street has been resolved. Major traffic and transit studies now in progress will have an important bearing on the resolution of this question.

S. M. Tatarian  
Chairman  
Market Street Executive Committee

July 30, 1965







1. Pedestrians forced through narrowed walk
2. Conflicting patronage movements
3. Location of Municipal Railway access

## Patronage Flow Analysis

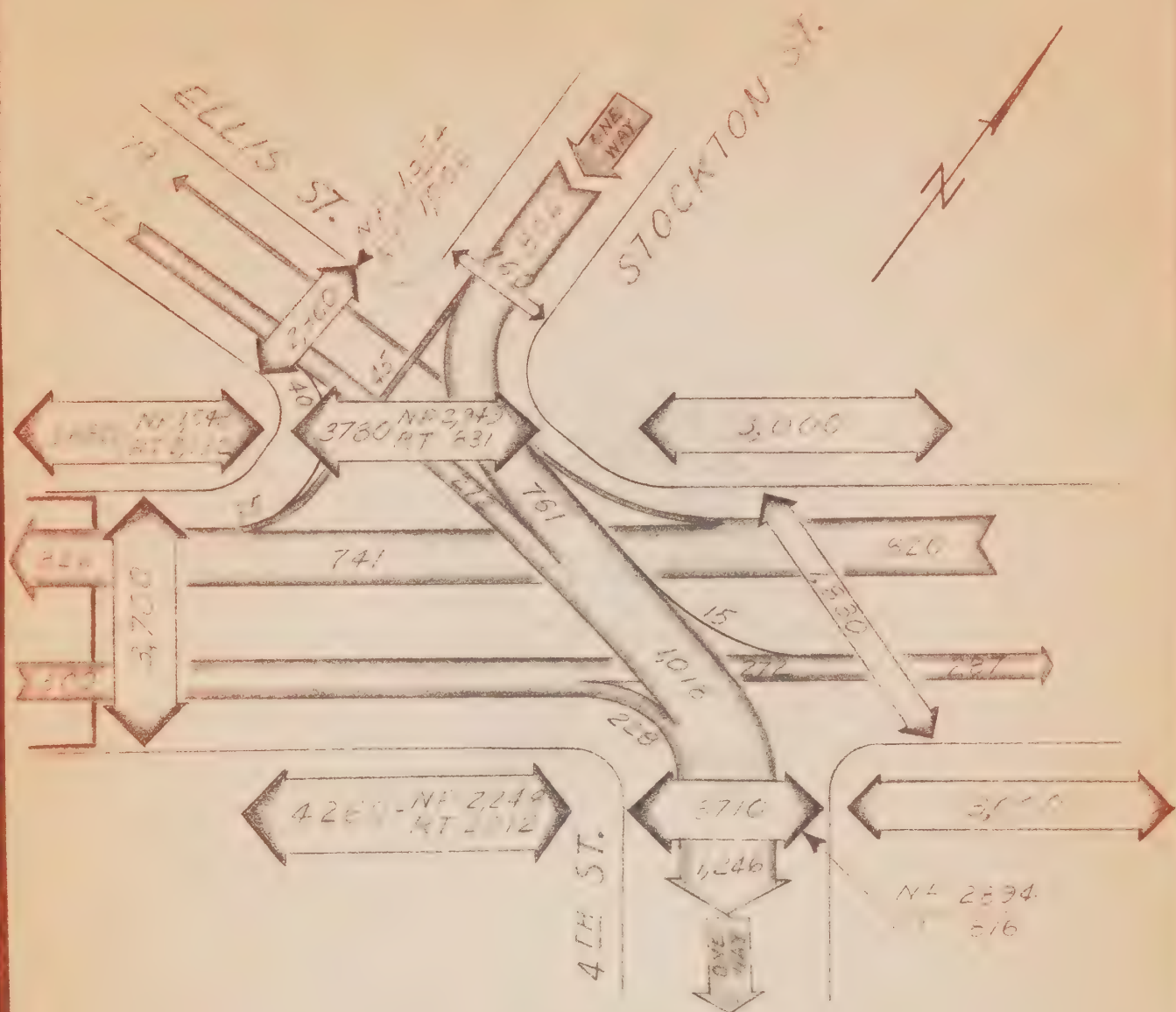
West end - Montgomery Street Station





# VEHICLE-PEDESTRIAN CONFLICTS

1975 P.M. PEAK HOUR



## LEGEND

NP ..... NORMAL PEDESTRIAN FLOW

RT ..... RAPID TRANSIT AND STREETCAR PATRONAGE

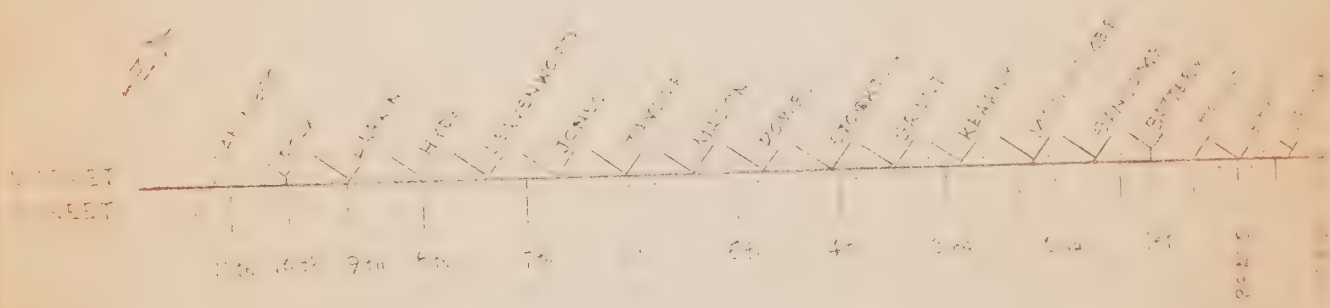
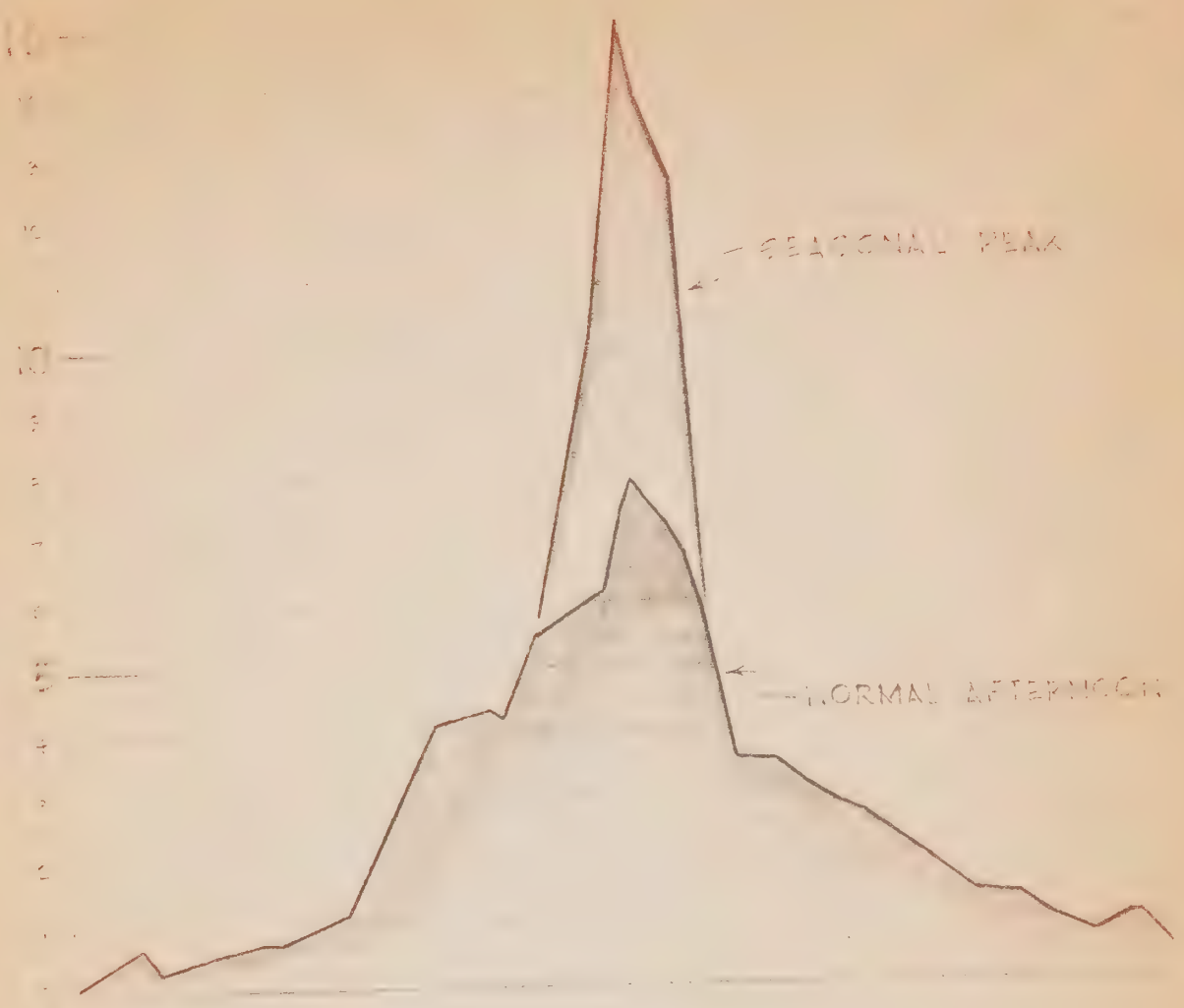
➡ VEHICULAR FLOW

↔ PEDESTRIAN FLOW

☐ ..... POWELL STATION MEZZANINE



PEDESTRIAN VOLUMES (THOUSANDS)

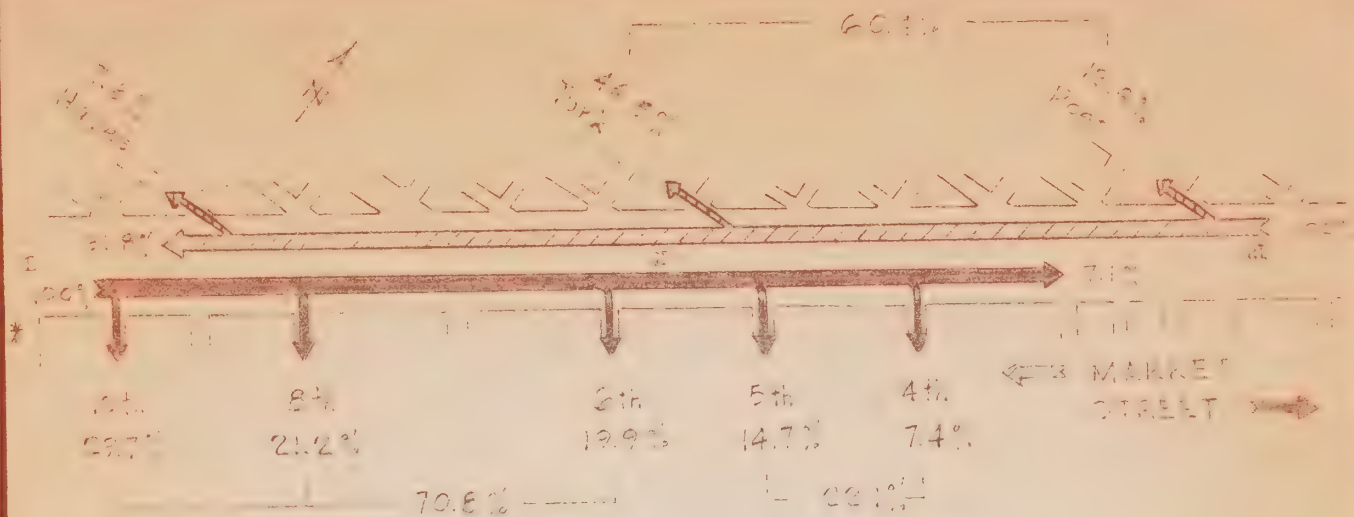


## PEDESTRIAN VOLUMES

Market Street Sidewalks  
Total of North and South Sides







## LICENCE PLATE STUDY

### 7:00 - 9:00 A.M.

ADJUSTED  
VEHICLES

Total vehicles entering at I

2252

No. of plates recorded at I

1870

No. of vehicles, I thru II

546 = 29.2%

657

No. of vehicles, I thru III

127 = 7.1%

160

### 4:00 - 6:00 P.M.

Total vehicles entering at III

782

No. of plates recorded at III

782

No. of vehicles, III thru II

309 = 39.6%

309

No. of vehicles, III thru I

248 = 31.8%

248

## \* VEHICLE OCCUPANCY (Adj.)

NO. OF OCCUPANT	1	2	3	4
PERCENT	55.0%	39.0%	6.7%	1.1%

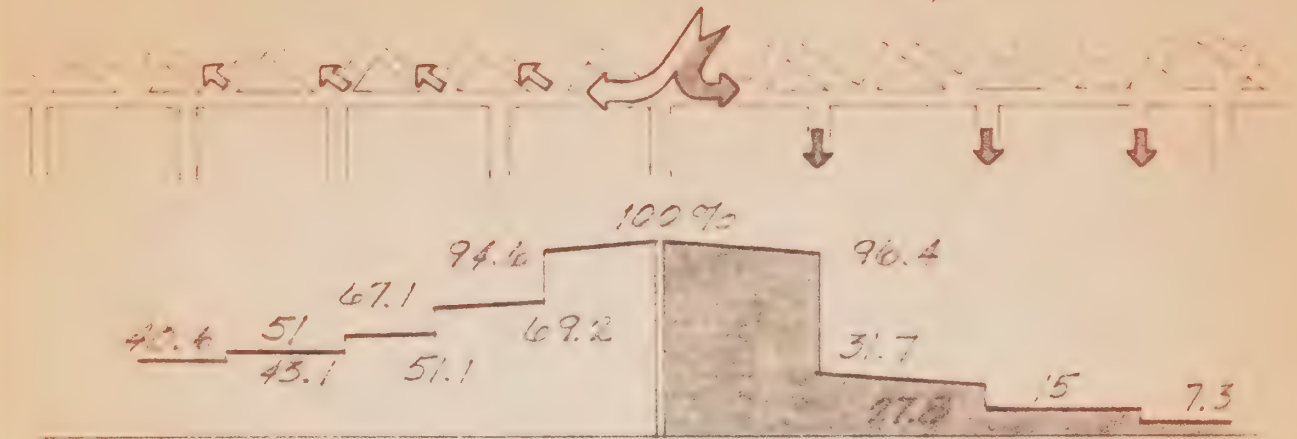
Average: 1.55 persons/vehicle

## Through Traffic Distribution

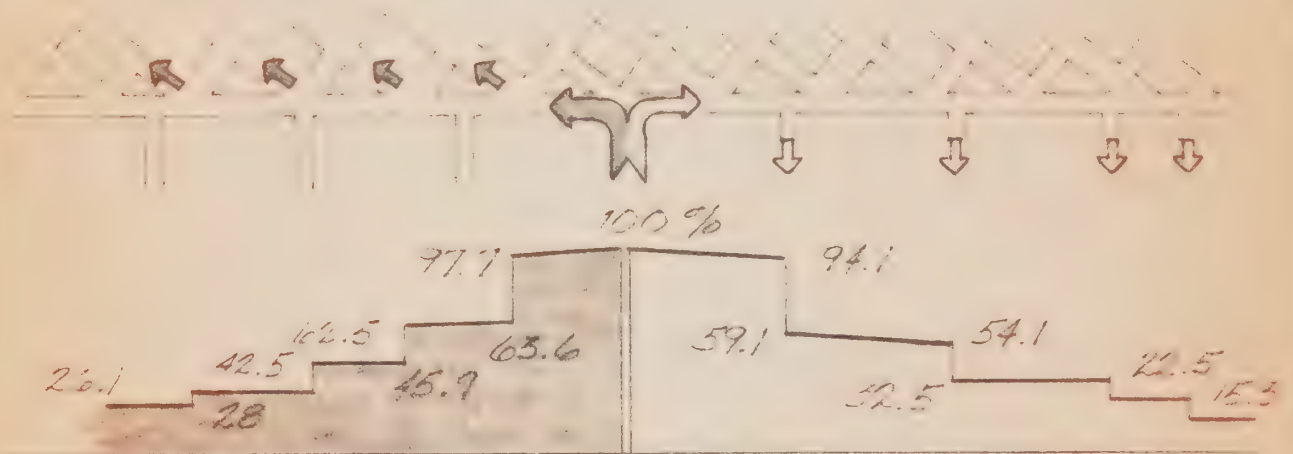
S. Carr







TRAFFIC ENTERING FROM NORTH SIDE OF MARKET STREET



TRAFFIC ENTERING FROM SOUTH SIDE OF MARKET STREET

## Typical Circulating Traffic Distribution

% VEHICLES REMAINING ON MARKET STREET



POWELL STREET STATION VICINITY  
(TYPICAL OF MARKET STREET STATION AREAS)



CURB PARKING ACCUMULATION

LEGEND

- TOTAL VEHICLES  
- - - - - COMMERCIAL VEHICLES





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